



TOUGHBOOK

When it's worth doing better.

CF-53

Latest TOUGHBOOK
information

<http://panasonic.net/avc/pc>

Premium Mobile Business Quality with State-of-the-Art PC Performance and Communication Features

OS	Genuine Windows® 7 Professional		
CPU	Intel® Core™ i5-2520M (2.5 GHz, Intel® Smart Cache 3MB*1)		
Color TFT LCD	14" Touchscreen		
HDD	320 GB*2 (Serial ATA)		
RAM	4 GB*1 (8 GB*1 Max.)		



High-brightness LCD (1,000 nit)*3 with Circular Polarizer for easy viewing under direct sunlight.



Operates with the standard battery for approx. 10 hours*4 and rapid recharging function (approx. 2 hours)*5



Weighting only about 2.95kg



Shock-resistant body ensured by a 76 cm free-fall test.*7



Spill-resistant keyboard*8



Built-in security chip (TPM)*6 for data protection.

*1 1 MB = 1,048,576 bytes/1 GB = 1,073,741,824 bytes. *2 1 GB=1,000,000,000 bytes. Your operating system or some application software will report as fewer GB. *3 Average luminance in the middle of the screen at the time of shipping. This may change depending on the environment and length of use. *4 Measured with LCD brightness : 60 cd/m². Varies depending on the usage conditions, or when an optional device is attached. *5 Varies depending on the usage condition, CPU speed, etc. *6 Need to set-up TPM Professional Package. Refer to the Installation Manual of "TrustedPlatform Module (TPM)". *7 Test conducted in non-operating condition in a Panasonic technical research lab. The shock and vibration resistance functions are not a guarantee against damage or malfunction. *8 Spill resistance applies to all of the keyboard. It does not apply to the side panel, battery section, speakers, and DVD drive when it is open. The Spill-resistant performance of the product does not guarantee that it will be free from damage or malfunction. If water is spilled onto it, be sure to have it repaired. (Note that a fee will be charged for this repair service.)

Panasonic recommends Windows® 7.



CF-53	
Model No.	CF-53ASCHYDY
OS ^{*1*19}	Genuine Windows® 7 Professional 32-bit or Genuine Windows® 7 Professional 64-bit
CPU	Intel® Core i5-2520M (2.5GHz, Intel® Smart Cache 3 MB ^{*3})
Chipset	Intel® 6 Series Express Chipsets QM67
Main Memory ^{*2}	4 GB ^{*3} , DDR3 SDRAM (8 GB ^{*3} Max.)
Video Memory	UMA (<32-bit>1428 MB ^{*3} Max. / <64-bit> 1696 MB ^{*3} Max.) ^{*4}
Hard Disk Drive	320 GB ^{*5} (Serial ATA) Approx. 10 GB ^{*5} is used as a partition with recovery tools. (Users cannot use this partition.)
CD/DVD Drive	DVD MULTI Drive built-in, Buffer underrun error prevention function: Supported, Zero Power ODD: Supported
Display Method	14" with Touchscreen (TFT) (1366 x 768 dots)
Internal LCD	65,536/16,777,216 colors (800 x 600 dots/1024 x 768 dots/1280 x 600 dots/1280 x 720 dots/1280 x 768 dots/1360 x 768 dots/1366 x 768 dots) ^{*6}
External Display ^{*7}	65,536/16,777,216 colors (800 x 600 dots/1024 x 768 dots/1280 x 768 dots/1600 x 1200 dots/1920 x 1080 dots/1920 x 1200 dots)
Wireless LAN	Intel® Centrino® Advanced-N 6205 (IEEE802.11a/b/g/n compliant)
LAN	IEEE 802.3 10BASE-T, IEEE 802.3u 100BASE-TX, IEEE 802.3ab 1000BASE-T
Modem	Data: 56 kbps (V.92) FAX: 14.4 kbps
Sound	WAVE and MIDI playback, Intel® High Definition Audio subsystem support
Security Chip	TPM (TCG V1.2 compliant) ^{*8}
Card	PC Card Slot
Slots	ExpressCard Slot
SD Memory Card Slot ^{*9}	x 1, Type I or Type II, Allowable current 3.3 V: 400 mA, 5 V: 400 mA
RAM Module Slot	x 1, ExpressCard/34 or ExpressCard/54
Interface	x 1
Keyboard / Pointing Device	x 2, DDR3 SDRAM, 204-pin, 1.5 V, SO-DIMM, PC3-10600 Compliant
Power Supply	USB ports x 4 (4-pin, USB 2.0 x 3 + USB 3.0 x 1) ^{*10} / Serial Port (Dsub 9-pin male) / Modem Port (RJ-11) / LAN Port (RJ-45) x 1 / VGA Port (Mini Dsub 15-pin female) / HDMI Port (Type A) ^{*11} / Microphone Jack (Miniature jack, 3.5 D/A) / Headphone Jack (Miniature jack, 3.5 D/A, Impedance 32Ω, Output Power 4 mW x 2, Stereo) / Expansion Bus Connector (Dedicated 100-pin female)
AC Adaptor	88 or 87 keys / Touch Pad / Touchscreen
Battery Pack	AC adaptor or Battery pack
Operating Time ^{*12}	Input: 100 V to 240 V AC, 50 Hz/60 Hz, Output: 15.6 V DC, 7.05 A
Charging Time ^{*13}	Li-ion 10.8 V, Typical 6750 mAh / Minimum 6300 mAh
Power Consumption ^{*14}	Approx. 10 hours
Physical Dimensions (W x D x H) (including the carrying handle)	Approx. 2 hours
Weight	Approx. 30 W ^{*15} / Approx. 100 W (maximum when recharging in the ON state)
Operating Environment	340 mm x 281 mm x 46-55 mm
Storage Environment	Approx. 2.95 kg
Temperature	<without HDD heater> 0 °C to 50 °C (IEC60068-2-1, 2) ^{*16}
Humidity	<with HDD heater> -10 °C to 50 °C (IEC60068-2-1, 2) ^{*16}
Temperature	30 % to 80 % RH (No condensation)
Humidity	-20 °C to 60 °C
Pre-installed Software ^{*19}	30 % to 90 % RH (No condensation)

^{*1} Operations of this computer are not guaranteed except for the pre-installed OS and the OS which is installed by using the Product Recovery DVD-ROM provided by Panasonic. ^{*2} Memory size of the factory default depends on the model. You can physically expand the memory up to 8 GB, but the total amount of usable memory available will be less depending on the actual system configuration. ^{*3} 1 MB = 1,048,576 bytes / 1 GB = 1,073,741,824 bytes. ^{*4} A segment of the main memory is allotted automatically depending on the computer's operating status. The size of the Video Memory cannot be set by the user. The size of Video Memory is allotted depending on the operating system. ^{*5} 1 MB = 1,000,000 bytes / 1 GB = 1,000,000,000 bytes. Your operating system or some application software will report as fewer GB. ^{*6} A 16,777,216 color display is achieved by using the dithering function. ^{*7} Display may be impossible using some connected external displays. ^{*8} Only for model with TPM. For information on TPM, refer to the Installation Manual of "TrustedPlatform Module (TPM)". ^{*9} This slot is compatible with High-Speed Mode. Operation has been tested and confirmed using Panasonic SD/SDHC/SDXC Memory Cards with a capacity of up to 64 GB. Operation on other SD equipment is not guaranteed. ^{*10} Does not guarantee operation of all USB-compatible peripherals. ^{*11} Does not guarantee operation of all HDMI-compatible peripherals. ^{*12} Measured with LCD brightness: 60 cd/m². Varies depending on the usage conditions, or when an optional device is attached. ^{*13} Varies depending on the usage conditions, CPU speed, etc. ^{*14} Approx. 0.5 W when the battery pack is fully charged (or not being charged) and the computer is off. ^{*15} When using with 115 V AC. Even when the AC adaptor is not connected to the computer, power is consumed (Max. 0.2 W) simply by having the AC adaptor plugged into an AC outlet. ^{*16} When using with 240 V AC. Even when the AC adaptor is not connected to the computer, power is consumed (Max. 0.3 W) simply by having the AC adaptor plugged into an AC outlet. ^{*17} Rated power consumption. ^{*18} Do not expose the skin to this product when using the product in a hot or cold environment. Product functions and product life may vary in such condition, check the Operation Instructions for further details. ^{*19} Must be installed before use. ^{*20} Perform on the recovery partition. (If this software cannot be performed on the recovery partition, perform from the recovery disc.) ^{*21} When reinstalling Windows using the data of the recovery area on the hard disk, you can select the OS to be installed (either Windows 7 (32-bit) or Windows7 (64-bit)). An OS that has been installed at the time of purchase or an OS that has been installed using the hard disk recovery function or the recovery disc can be supported.

As an ENERGY STAR® Partner, Panasonic Corporation has determined that this product meets the ENERGY STAR® guidelines for energy efficiency. Active Matrix color display conforms to industry standards. Some displays may contain isolated illuminated or dark pixels as an artifact of the manufacturing process (effective pixels : minimum 99.998%, defect pixels : maximum 0.002%). Panasonic and TOUGHBOOK are brand names and registered trademarks of Panasonic Corporation. Acrobat® is a registered trademark of Adobe® Systems Incorporated. Intel, the Intel logo, Centrino, Centrino Inside, Intel Core, Core Inside, Intel vPro, and vPro Inside are trademarks of Intel Corporation in the United States and other countries. Microsoft® and Windows® are trademarks of Microsoft® Corporation of the United States and/or other countries. All other brand names shown are the registered trademarks of the relevant companies. All rights reserved. All working conditions, times and figures quoted are optimum or ideal levels and may differ as a result of individual and local circumstances.

Image and specifications are subject to change without prior notice.

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Semi-rugged